What is Claimed is:

1. A method for fabricating a cathode plate of a carbon nano tube field emission display, said method comprising the steps of:

(a) preparing a transparent substrate;

(b) depositing a layer of photoconductive paste on said transparent substrate, patterning said layer of photoconductive paste using a photolithography process, and sintering to form a cathode electrode layer;

(c) depositing a layer of etchable dielectric material on said cathode electrode layer and said transparent substrate;

(d) depositing a layer of photoconductive gate material on said layer of dielectric material, patterning said layer of photoconductive gate material using a photolithography process, and sintering to form a gate electrode layer;

(e) using said gate electrode layer as a protecting film to pattern said layer of dielectric material with a photolithography process to form field emission regions above said cathode electrode layer; and

(f) filling said field emission regions with a carbon nano tube emission layer on said cathode electrode layer.

2. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said photoconductive paste in step (b) is made by mixing conductive metal powder and resin with solvent and photosensitive emulsion.

3. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said photoconductive gate material in step (d)

is made by mixing conductive metal powder and resin with solvent and photosensitive emulsion.

4. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said dielectric material in step (c) is made by mixing dielectric powder chosen from the group of SiO_2, Na_2O, Li_2O, PbO_2 and BO_2, and resin with solvent.

5. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein sintering in step (b) is processed for about 30 minutes at a temperature in the range of 480 °C to 560 °C in an air atmosphere.

6. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein sintering in step (d) is processed for about 30 minutes at a temperature in the range of 480 °C to 560 °C in an air atmosphere.

7. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, further comprising a step of sintering said layer of dielectric material to burn away residual organic materials in each layer after depositing said layer of etchable dielectric material in step (c).

8. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 7, wherein said sintering step in step (c) is processed for about 30 minutes at a temperature in the range of 480 °C to 540 °C in an air atmosphere.

9. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein step (f) further includes a step of sintering to

burn away residual organic materials in each layer before filling said field emission regions with a carbon nano tube emission layer.

10. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein each photolithography process includes the steps of defining a pattern by a photo-mask after pre-bake, photo exposure and developing.

11. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said carbon nano tube emission layer in step (f) is filled on said cathode electrode layer by an electrical deposition method.

12. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 11, wherein said carbon nano tube paste is made by mixing a dispersant with carbon nano tube powder of 3-50 weight percentage and solvent.

13. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said carbon nano tube emission layer in step (f) is filled by an electrical deposition method comprising the steps of forming a photoresist layer above said gate electrode layer, depositing a carbon nano tube paste into said field emission regions electrically, and sintering to remove residual organic materials in each layer of said cathode plate in a high temperature oven.

14. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 13, wherein said sintering step after depositing said carbon nano tube paste into said field emission regions is processed for about 30

minutes at a temperature in the range of 480 °C to 500 °C in a nitrogen atmosphere.

15. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said carbon nano tube emission layer in step (f) is filled on said cathode electrode layer by a photolithography method.

16. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 15, wherein said photosensitive carbon nano tube paste is made by mixing photoresist with carbon nano tube powder of 5-30 weight percentage and silver powder of 5-30 weight percentage.

17. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 1, wherein said carbon nano tube emission layer in step (f) is filled by a photolithography method comprising the steps of depositing a layer of photosensitive carbon nano tube paste on the surface of said cathode plate, defining a pattern for said carbon nano tube emission layer by alignment and exposure, and sintering to remove residual organic materials in each layer of said cathode plate in a high temperature oven.

18. The method for fabricating a cathode plate of a carbon nano tube field emission display as claimed in claim 17, wherein said sintering step after depositing said carbon nano tube paste into said field emission regions is processed for about 30 minutes at a temperature in the range of 480 °C to 500 °C in a nitrogen atmosphere.

19. A method for fabricating a cathode plate of a carbon nano tube field emission display, said method comprising the steps of:

(a) providing a transparent substrate;

(b) depositing a layer of photoconductive paste on said transparent substrate, patterning said layer of photoconductive paste using a photolithography process, and sintering to form a cathode electrode layer;

(c) printing a carbon nano tube emission layer on said cathode electrode layer by a screen printing method;

(d) depositing a layer of etchable dielectric material on said carbon nano tube emission layer, said cathode electrode layer and said transparent substrate;

(e) depositing a layer of photoconductive gate material on said layer of dielectric material, patterning said layer of photoconductive gate material using a photolithography process, and sintering to form a gate electrode layer; and

(f) using said gate electrode layer as a protecting film to etch said layer of dielectric material with a photolithography process and expose said carbon nano tube emission layer above said cathode electrode layer, and sintering to remove residual organic materials in each layer.

20. A cathode plate of a carbon nano tube field emission display comprising:

a transparent substrate;

a cathode electrode layer having a plurality of parallel cathode electrode strips formed on said transparent substrate;

a dielectric layer formed on said cathode electrode layer and said transparent substrate, said dielectric layer having a plurality of parallel dielectric strips perpendicular to said cathode electrode strips, and a plurality of circular holes each being formed at an intersection of a dielectric strip and a cathode electrode strip;

a gate electrode layer formed on said dielectric layer, said gate electrode layer having a plurality of parallel electrode strips perpendicular to said cathode electrode strips, and a plurality of circular holes above said circular holes of said dielectric layer; and

a carbon nano tube emission layer formed in said circular holes of said dielectric layer on said cathode electrode layer.

21. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein each of said cathode electrode strips has a width in the range of 30 μm to 300 μm and the gap between every two adjacent parallel strips is in the range of 30 μm to 50 μm.

22. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein each of said dielectric strips has a width in the range of 30 μm to 300 μm and the gap between every two parallel strips is in the range of 30 μm to 50 μm.

23. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein each of said circular holes on said gate electrode layer or said dielectric layer has a diameter in the range of 10 μm to 50 μm.

24. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein said cathode electrode layer has a thickness in the range of 3.5 μm to 5.5 μm.

25. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein said dielectric layer has a thickness in the range of 10 μm to 30 μm.

26. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein said gate electrode layer has a thickness in the range of 3.5 μm to 5.5 μm.

27. The cathode plate of a carbon nano tube field emission display as claimed in claim 20, wherein said carbon nano tube emission layer has a thickness in the range of 3 μm to 5 μm.

28. A carbon nano tube field emission display comrpising an anode plate packed with a cathode plate as claimed in claim 20.